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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,736	11/17/2003	Simon Booth	03-0798 1496.00336	4651

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LSI LOGIC CORPORATION
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EXAMINER

SENF1, BEHROOZ M

ART UNIT	PAPER NUMBER
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2621

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/714,736	Applicant(s) BOOTH ET AL.	
	Examiner Behrooz Senfi	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/27/2005, 11/17/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 9, 11 – 20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Senda (US 5,719,630).

Regarding claim 1, Senda '630 discloses, an apparatus comprising; a first circuit configured to generate a control signal in response to a measurement of inter-picture motion between a current picture and a first reference picture (i.e. fig. 10, elements 71 – 74) and a second circuit configured to select between the first reference picture and a second reference picture as a better reference picture for motion estimation in response to the control signal (i.e. fig. 10, elements 75, 76 to 68).

Regarding claims 2 and 14, Senda '630 discloses, wherein; a parity of the first reference picture is opposite to a parity of the current picture (i.e. fig. 10, element 72) and a parity of the second reference picture is the same as the parity of the current picture (i.e. fig. 10, element 71).

Regarding claims 3 and 15, Senda '630 discloses, a parity of the first reference picture is the same as a parity of the current picture (i.e. fig. 10, element 71) and a

parity of the second reference picture is opposite to the parity of the current picture (i.e. fig. 10, element 72).

Regarding claims 4 and 16, Senda '630 discloses, memory configured to store the current picture, the first reference picture and the second reference picture (i.e. fig. 1, memory 25).

Regarding claim 5, Senda '630 discloses, multiplexer circuit configured to select between the first reference picture and the second reference picture (i.e. fig. 10, selector 75).

Regarding claims 6 and 17, Senda '630 discloses, motion estimation circuit configured to generate one or more motion vectors in response to the better reference picture and the current picture (i.e. figs. 9 – 10, MVs).

Regarding claims 7 and 18, Senda '630 discloses, a circuit configured to generate a plurality of coarse motion vectors for said current picture based upon said first reference picture (fig. Fig. 11, element 26, col. 5, lines 60 – 67).

Regarding claims 8 and 19, Senda '630 discloses, wherein the first circuit further comprises: a first analysis circuit configured to generate a measurement of inter-picture motion in response to the coarse motion vectors (i.e. fig. 11, element 26).

Regarding claims 9 and 20, Senda '630 discloses, a second analysis circuit configured to generate the control signal in response to said measurement of inter-picture motion (i.e. fig. 11, element 27).

Regarding claim 11, Senda '630 discloses, apparatus is part of an encoder circuit (i.e. fig. 11).

Regarding claims 12 – 13, the limitations claimed have been analyzed and rejected with respect to claim 1 above.

Regarding claim 22, Senda '630 discloses, field picture (i.e. fig. 5, col. 1, lines 30 – 33).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Senda (US 5,719,630) in view of Adiletta et al (US 6,101,276).

Regarding claims 10 and 21, Senda '630 teaches, a first circuit configured to generate motion vectors, as discussed with respect to claim 8 above.

Senda '630 is silent in regards to explicit of, performing a cluster analysis, for motion vectors.

Adiletta in the same field teaches, analyzing a video frame includes examining a cluster of motion vectors (i.e. col. 21, lines 25 – 35), which meets the limitations as claimed.

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to improve Senda's moving picture coding in accordance with the teaching of Adiletta by examining a cluster of motion vectors to

provide improved picture characterization for encoding, as suggested by Adiletta (col. 21, lines 25 – 35).

Contact

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Behrooz Senfi** whose telephone number is **(571) 272-7339**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mehrdad Dastouri** can be reached on **(571) 272-7418**.

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, Va. 22314.

Any inquiry of a general nature or relative to the status of the application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is **(571) 272-6000**,

Or faxed to:


(571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

B.M.S.



TUNG VO
PRIMARY EXAMINER